## REMARKS

In response to the Examiner's Office Action of November 29, 2002, Applicant has considered the Examiner's considerations and has further now amended the claims to focus on the software-developed aspects which emulate hardware, but which are not taught by the cited references.

It should be understood that the claims involve a combination of elements. Applicant feels that this combination of elements presents an unusual configuration which provides certain efficient features. And further, Applicant feels that the concatenation of various references cited by the Examiner which he is using to put together to attack every aspect of Applicant's configuration, is not warranted from the standpoint of hindsight.

Thus, Applicant would reiterate his dissent that Examiner's conclusion on obviousness could have any basis for legal validity.

To take Applicant's combination of interrelating elements and then find, as Examiner does, that particular aspect as having been done or used or mentioned in some other patent --- and then to intimate that of course, an inventor would be motivated to use each and every one of those elements cited by the Examiner in order to re-create Examiner's combination invention --- seems to be stretching the idea of denying an inventive combination too far. Appendix I is a sketch of the Examiner's concept of "integration".

Examiner has indicated time and time again, that an inventor would be motivated to use element "A" --- and then again, an inventor would have been motivated to use element "B" --- then an inventor would be motivated to use element "C" --- then an inventor would be motivated to use element "D".

This is a manifold array of implications as to motivation; this could go to the limit that every single claim of any issued patent could be pointed to ---- as indicating that each of the elements have somewhere else, or somewhere in the line of technology, been intimated, used or mentioned.

Thus, in this manner, any patented invention could be shot-down.

Of course, Examiner has done a good research job of finding various aspects and various elements, many of which have never been combined into an overall combination or even thought of being combined that way, and yet, where is the motivation?

The burden of motivation is laid upon the Examiner to show how and why an inventor, faced with the same problems as that presented in the application, would be motivated to go around to find and pick-up each of these individual pieces and redesign them and combine them and to integrate them into a workable whole.

> Thus, as per Applicant's newly-amended claim 1, it should be noted in the amended claim 1, that there is in clause (a), a first source <u>software</u> means providing SCSI firmware --- and in clause (b), a second <u>software</u> means for providing a CPU with selection means --- and in clause (c), a third <u>software</u> means for temporarily storing a different version of the firmware --- and in clause (d), a <u>fourth software</u> means for checking the pre-existing firmware.

At this point, it would appear that the Examiner will argue that even though Maebayashi <u>does not expressly</u> disclose that the source means for a SCSI peripheral has SCSI disk drive firmware and SCSI servo firmware, but that now Machado discloses the use of disk drive firmware and server

firmware, and that --- one of ordinary skill would have been "motivated" to update a system for a SCSI targeted peripheral.

Then Examiner says that Maebayashi <u>does not expressly disclose</u> that this CPU should have selection means (hardware?) for choosing single or dual two-dimensional array -- and then Examiner cites Ghia, disclosing a selection means for choosing a single or dual two-dimensional array --- but it should be noted that Applicant is indicating here --- not just a hardware selection means, but a <u>software functioning selection means</u>.

> So, possibly one of ordinary skill could provide a selection means for one or two arrays in order to expand the memory space and this could possibly (?) be done by Ghia, but there is no teaching that this could be done on a software basis, and there is no indication of a "<u>motivation</u>" for someone to do this.

Regarding claims 4 and 6 which have been rejected under 35 USC 103(a) as unpatentable over Maebayashi, in view of Machado, in view of IBM Technical Disclosure Bulletin, Volume 37 (IBM Disclosure), Examiner here is now combining a number of elements on the basis that one would have been "motivated" to do this.

> Again, it should be indicated that the burden for establishing <u>motivation</u> is upon the Examiner, and there is no such motivation indicated, but merely a concatenation of references in order to re-create what Applicant has done.
>
> It should be indicated that claim 4 shows not just a source means, but a source <u>software means</u> for said firmware, and in addition, clause (b) of claim 4 indicates not just a central processing means, but

rather a "<u>software simulated</u> central processing means".

And further, clause (b) of claim 4 indicates the utilization of a <u>software emulated</u> local memory means, not just a hardware memory means.

Now, in regard to the amended claim 6, Examiner has indicated Maebayashi <u>does not expressly disclose</u> "the means for recognizing the number of bytes of firmware to be downloaded" and further --- Examiner indicates Maebayashi <u>does not expressly disclose</u> a means for "selecting a buffer array size" -- arguing that this an inherent function of a central processing unit.

But note in Applicant's amended claim 6, Applicant indicates a "software means" for recognizing the number of bytes, and further in clause (b2), Applicant indicates means for selecting a <u>software emulated</u> buffer array size.

Examiner has the burden of indicating why one would be motivated to do this, since there is nothing in the cited references which would indicate this motivation.

Examiner has rejected claim 5 under 35 USC 103(a) as obvious over Maebayashi, in view of Machado, and the IBM Disclosure, and further in view of Stupek.

Now, while Examiner indicated Maebayashi <u>does not</u> expressly disclose use of the World Wide Web as the source of firmware update means --- Examiner has now cited the Stupek reference as saying this could be combined(?) with Maebayashi by a person of ordinary skill who would have been "motivated" due to the

tendency(?) of users to lose or misplace installation or upgrade disks.

Again, Examiner is making a combination and ascribing motivation for making this combination, and again, using the informative value of the hindsight of Applicant's configuration in order to consider that one would be motivated.

*Question*: Would one be motivated without having first read the Applicant's specification?

In Applicant's amended claim 5, it should be noticed that the source means is a source <u>software</u> means.

The previous claim 7 was rejected for obviousness as being unpatentable over Maebayashi in view of Machado and the IBM Disclosure, and in view of the ANSI SCSI-2 Standard X3.131.1934.

The newly-amended claim 7 indicates a <u>software-emulated</u> central processing means, in addition to clause (b3) <u>software</u> inquiry means, and clause (b4) <u>software</u> means to determine. . .what version. . . .

While Examiner says Maebayashi does not expressly disclose the identification inquiry means of the target controller, but then the ANSI X3 Standard discloses the means to correlate target control --- thus, Examiner says this ANSI Standard could be combined with Maebayashi and one of ordinary skill would have been "motivated" to do this.

Where is the motivation for making this combination? Sure, certainly with the use of hindsight one can imply that such motivation is flying around in the air somewhere, but unless one is faced with the

specific problem arrangements and configuration of Applicant's, there would not be such a motivation.

Claims 8, 10 and 11 have been rejected under 35 USC 103(a) for obviousness as being unpatentable over Maebayashi in view of Ghia and further in view of Stupek.

Examiner has indicated that Maebayashi <u>does not</u> expressly disclose "having a first and second two-dimensional buffer array", but that Ghia discloses a two-array memory formation. But note ---

In Applicant's amended claim 8, it should be noted that clause (a) involves a <u>software</u> source means, while clause (b) involves a <u>software</u> emulated processor means having a temporary <u>software</u> implemented software first and second two-dimensional buffer array means.

This is not the combination which is taught by combining Maebayashi, with Ghia --- and where is the motivating influence for this combination?

It should now be noted that the amended claim 10 is dependent on claim 8, and includes clause (g) means to check and compare the pre-existing firmware.

In regard to claim 11 which remains "as-is", however it is to be noted that claim 11 depends on the amended claim 8 which has just been discussed.

Examiner has rejected claims 12 and 13 under 35 USC 103(a) for obviousness over Maebayashi in view of Stupek and further in view of the ANSI X3 Standard.

As Examiner indicated, Maebayashi <u>does not</u> expressly disclose a "utility program" to download a firmware update, then Examiner indicates that Stupek

discloses an addition to a system --- of a means to download a firmware software version for a targeted controller. Then Examiner argues that one of ordinary skill would have been "motivated" to do this. Here, Examiner -- should indicate what is the "motivation?"

Now, regarding the amended claim 12, it should be noted this involves a <u>software</u> method of selecting and downloading, in addition to clause (a) which involves a plurality of separate <u>software</u>-emulated temporary storage media.

> Then clause (d) of claim 12 involves the <u>software</u> DFAST utility program, and clause (e) involves selecting a single or double temporary <u>software</u> developed two-dimensional buffer array, while clause (f) involves downloading the selected firmware <u>by said DFAST utility</u>.

Again, Examiner argues that one of ordinary skill would have been "motivated" to do this because Maebayashi, Stupek and the ANSI X3 Standard could have been combined (if one were so motivated).

Again, Applicant would state that the <u>burden is on the Examiner</u> to show why such motivation for such a combination would occur <u>without the hindsight</u> of Applicant's specification?

In regard to claims 14 and 15 which have been newly-amended to indicate the various software utilization means upon which Applicant's invention is focused, the Examiner has rejected these prior claims for obviousness over Maebayashi in view of the ANSI X3 Standard.

In regard to claim 14, Examiner has indicated Maebayashi <u>does not</u> expressly disclose the means, for initiating the SCSI INQUIRY command -- but that the ANSI X3 Standard discloses this means in the form of a "modified command descriptor block" --- so again, the Examiner is making this combination on the basis that one of ordinary skill would have been "motivated" to do this.

There can be all kinds of speculation as to what would motivate someone, but it is only after Applicant's disclosure was made that such a motivation was intimated. So then -- what would be the specific motivation?

The amended claim 14 will be seen to indicate the focus on the <u>software</u> implementation involved here, such that clause (a) is a <u>software</u> means for initiating the SCSI inquiry command, while clause (b) is a <u>software</u> means to query a designated target, while clause (c) is a <u>software</u> means for enabling access to and acquiring a firmware page number, and clause (d) indicates that the selected sizes for the two-dimensional buffer arrays are <u>software-implemented</u>.

Thus, Maebayashi combined with the ANSI X3 Standard does not teach the factors which are now seen in amended claim 14.

In conclusion, the major questions here involve Applicant's <u>focus on software implementation, rather than the hardware factors in the cited references</u>, even though there may be some occasional ancillary references to software usage in some of the references.

And further, the whole question in almost every case of the extant and amended claims, involves the question which arises as to motivation to make the combinations suggested by the Examiner, but which only come to the forefront of consideration after reading through Applicant's specification and Applicant's configuration. The "motivation" must have been conceived and have occurred prior to Applicant's description and configuration and not as a result of having read Applicant's description and configuration.

Thus, where was the motivation for making these combinations before Applicant's invention was presented to the Patent Examining Office?

To summarize and to reiterate Applicant's prior citations on the law regarding the combining of references, Applicant would again cite the following:

Examiner has cited a number of situations where he claims that certain capabilities shown in Applicant's claims are "inherent" in computer systems. However, it should be noted as to what was stated in the case of *Crown Operations International, Ltd. v. Solutia, Inc.*, decided May 13, 2002, at the Court of Appeals in the Federal Circuit, which stated:

Prior art reference will not be assumed to inherently contain claimed property merely because it discloses same structure.

In the case of *Monarch Knitting Machinery Corporation v. Sulzer Morat GmbH*, shown at 45 USPQ2d, p.1978, decided March 10, 1998 by the U.S. Court of Appeals, Federal Circuit, the question of combining references to show obviousness was discussed as follows:

Although "trend" may constitute suggestion or teaching to one of ordinary skill in art to make "minor" changes from prior art in accordance with that trend in order to produce the claimed invention, existence of trend depends on content of prior art and trial court may not proceed to find trend without first determining whether prior art contains <u>suggestion or motivation</u> to combine references to form such trend. (underlines added)

It should be indicated herein that there is no suggestion or reason for motivating someone to take the *Maebayashi* reference and then search around for other elements to be incorporated into it, such as Flash PROMs from IBM or other capabilities which were shown in the *Ghia* reference or in the *Machado* reference, or those which could fished out of the ANSI Standards.

In the case of the *Gentry Gallery, Inc. v. The Berkline Corporation*, decided January 27, 1998, by the U.S. Court of Appeals, Federal Circuit, as reported at 45 USPQ2d, p.1498:

> Defendant failed to establish that invention of patents for sectional sofa with console between two reclining chairs would have been obvious in view of two prior art references in combination, since <u>mere possibility</u> that references could have been combined is insufficient to demonstrate that claimed invention would have been obvious, in that invention of patent requires "fixed console" between recliners, which neither reference provided and since even if claimed invention only involved physical insertion of free-

standing recliner of first reference into second sectional sofa of second reference, such simplicity alone is not determinative of obviousness. (underlines added)

Again, on the question of combining references and obviousness, there is cited the case of *WMS Gaming, Incorporated v. International Game Technology*, decided July 20, 1999, by the U.S. Court of Appeals, Federal Circuit, where it was stated:

Federal District Court did not clearly err in finding that invention of patent for virtual reel slot machine would not have been obvious in light of three prior art references in combination, since, accepting District Court's finding that prior art machines merely simulate physical reels of standard mechanical slot machine, it was not clear error for Court to conclude that those machines do not teach non-uniform mapping of numbers to stop positions on machines' reels in order to decrease odds of winning, as claimed in patent, since there is nothing in those references that indicates motivation to combine their teachings with those of third reference that teaches every aspect of claimed invention except non-uniform mapping of numbers to stop positions, and since infringement plaintiff presented objective evidence of non-obviousness in form of commercial success and long usage. (underlines added).

It should be emphasized that Applicant's invention is a software-implemented functionality and not a

concatenation of hardware modules as utilized in the cited references.

All the other cited inventions have claims incorporating hardware additions or modifications in order to perform what Applicant's invention has been able to do with no hardware additions or hardware modifications.

Thus, Applicant's invention should be viewed as a whole in its entirety and not an accumulation of others' bits and pieces, while also providing a unique functionality which NONE of the cited references can provide.

In view of the newly-amended claims and the focus on the software implementation and the efficient means developed for handling the rapid downloading of SCSI firmware and servo firmware into a target control module --- Applicant would contend that Applicant has presented a combination providing an efficient functionality which, at the time of its conception, was not obvious, nor was there such a software methodology for solving the problem for such downloading in an efficient manner. In this regard it is prayed that Examiner will observe the value of the combinative features presented by Applicant and subsequently provide a timely Notice of Allowance therefor.

Respectfully submitted,

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1.(Twice Amended) A system for downloading firmware from a source module onto a controller of a storage medium with minimal latency of operation comprising:

    (a) first source software means providing SCSI firmware for a disk drive and servo SCSI firmware for positioning said disk drive;

    (b) second software means for providing a central processing unit having [software programmable] a selection means for choosing hardware simulated single or dual two-dimensional array means for temporary storing said SCSI firmware prior to placement onto a target peripheral controller for said disk drive;

    (c) third software means for temporarily storing a different version[s] of said firmware until said target controller has been accessed to identify the proper version of firmware required;

    (d) fourth software means for checking the pre-existing firmware in said target controller to determine whether an updated firmware version will be required for a subsequent download.

4. (Amended) A system for downloading SCSI firmware and [SCSI] servc firmware in a rapid fashion onto a target control module, said system comprising:

(a) a source software means for said [SCSI] firmware and SCSI servo firmware;

(b) software simulated central processing means for receiving said firmware from said source software means and utilizing a software emulated local memory means for separate storage areas for said SCSI firmware and for [SCSI] said servo firmware;

(c) connection means from said software emulated local memory means over to a selected one of a plurality of disk drives for temporary storage;

(d) peripheral controller means for loading said SCSI firmware into a first flash PROM and for loading said servo SCSI firmware into a second servo flash PROM;

(e) means to Write said firmware from said first flash and second flash PROMs onto a targeted peripheral controller for a disk unit.

5. (Twice Amended) The system of claim 4 wherein said source software means includes control data received from the World Wide Web[, tape, disk or CD-Rom].

6. (Amended) The system of claim 4 wherein said software simulated central processing means includes:

    (b1)  software means for recognizing the number of bytes of firmware to be downloaded;

    (b2)  means for selecting a software emulated buffer array size which most closely approximates said recognized number of bytes to be downloaded.

7. (Amended) The system of claim 4 wherein said software emulated central processing means includes:

    (b3) software inquiry means to said target controller to acquire identification information;

    (b4) software means to determine, from said identification information, what version of firmware will be downloaded to said target controller.

8. (Twice Amended) A system for downloading the appropriate SCSI firmware onto a target module controller and overcoming the normal capacity limitations of temporary buffer storage comprising:

(a) software source means for providing microcode firmware for a target controller;

(b) software emulated processor means having a temporary implemented software first and second two-dimensional buffer array means for receiving and buffering said SCSI firmware and SCSI servo firmware destined for said target controller[;] without adding any additional hardware;

(c) software control means for transferring said SCSI firmware and servo firmware onto a targeted peripheral controller for a disk unit;

(d) a library exported interface (USERMAINTREQUEST) for issuing a download command request and an inquiry command to query the said target controller;

(e) software means to access the appropriate firmware release numbers and servo release numbers to enable a selection of the appropriately proper firmware;

(f) software selection means for selecting the appropriate size of said temporary implemented software first and second two-dimensional buffer array means to most efficiently store said selected proper firmware.

10. (Twice Amended) The system of claim 8 wherein said inquiry command includes:

   (g) means to check and compare the pre-existing firmware in said target controller to determine whether new updated firmware is required.

11. (As-Is) The system of claim 8 which includes means for checking to indicate that the proper firmware has been downloaded to the proper target controller module.

12. (Twice Amended) A software method of selecting and downloading the appropriate SCSI firmware and servo firmware for a selected target control module comprising the steps of:

(a) providing a plurality of separate software emulated temporary storage media for holding different versions of SCSI firmware appropriate for different types of target control modules;

(b) utilizing a DFAST utility program for initiating a firmware download to a target control module, said DFAST program functioning to download firmware to SCSI devices;

(c) inquiring as to the identity and firmware requirements of a selected target control module;

(d) fetching, by said DFAST utility program [a Central Processing Unit], of the appropriate firmware file from said storage media;

(e) selecting a single or double temporary software two-dimensional buffer array appropriate [in relation] to the byte count of said appropriately selected firmware for temporary storage;

(f) downloading the selected firmware by said DFAST utility onto said target control module.

13.(Amended) The method of claim 12 wherein step (c) includes the step of:

(c1) checking the pre-existing firmware in said target controller to determine whether or not said pre-existing firmware [it] requires any updating from the selected firmware on the selected storage media.

14. (Amended) A system __utilizing software means__ for rapid downloading, in one command cycle, of SCSI firmware and servo firmware into a target control module, comprising:

> (a) __first software__ means for initiating a SCSI Inquiry Command to said target control module via a Command Descriptor Block;
>
> (b) __second software__ means to query a designated target control module with information from a Page Code Field;
>
> (c) __third software__ means for enabling access to and acquiring a firmware page number and a firmware version number for said target control module;
>
> (d) downloading said SCSI firmware data [via] __using__ selected sizes of __software implemented__ two-dimensional buffer arrays;
>
> (e) passing said SCSI firmware data onto said target control module.

15. (As-Is) The system of claim 14 which includes:

(f) means to sense when said SCSI Inquiry Command initiates an illegal request.